COMMONWEALTH OF VIRGINIA Department of Environmental Quality Valley Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Global Stone Chemstone Corporation Shenandoah County, Virginia Permit No. VRO80252

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Global Stone Chemstone Corporation has applied for a Title V Operating Permit for its lime manufacturing facility located in Shenandoah County, Virginia. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:	Date:
Air Permit Manager:	Date:
Regional Permit Manager	Date

FACILITY INFORMATION

Permittee

Global Stone Chemstone Corporation P.O. Box 71 Strasburg, Virginia 22657

Facility

Global Stone Chemstone Corporation - Oranda Plant P.O. Box 71 1696 Oranda Road Strasburg, Virginia 22657

Plant ID No.: 51-171-0003

SOURCE DESCRIPTION

SIC Code: 3274 - Lime

Global Stone Chemstone Corporation manufactures lime and hydrated lime. The basic processes at the facility in Shenandoah County are (1) quarrying raw limestone, (2) preparing limestone for kilns by crushing and sizing, (3) calcining limestone, (4) processing the lime further by hydrating, and (5) miscellaneous crushing, transfer, storage, handling and loadout operations. There are two types of kilns in operation at this facility. They are a rotary kiln and a calcimatic or rotary hearth kiln. The facility use to operate five vertical shaft kilns, however these units have recently been permanently shutdown.

The facility is a Title V major source of PM-10, CO, and NO_x. This source is located in an attainment area for all pollutants, and is a PSD major source. The facility was previously permitted under five minor NSR Permits issued on August 2, 1973, May 5, 1987, March 5, 1999, and July 31, 2000, and May 1, 2002.

COMPLIANCE STATUS

The facility is inspected twice a year. The most recent inspection was conducted on December 12, 2001. The facility is currently in compliance with all applicable requirements.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Precalcina	tion Proces	sses					
U1		Quarry operations including drills, front end loaders, and haul trucks	1500 tons/hr (output)	Wet suppression		PM PM-10	03/05/99
U2		Plant roads and in plant transfers using trucks and loaders		Wet suppression		PM PM-10	03/05/99
U3		Storage piles		Wet suppression		PM PM-10	03/05/99
U4		Primary crushing, washing, and conveying except for equipment included in U4A and U4B (pre 1972)	500 tons/hr (output)	Wet suppression system		PM PM-10	
U4A		Cedar Rapids secondary crusher (installed 1999) Non NSPS Subpart OOO	550 tons/hr	Wet suppression system		PM PM-10	03/05/99
U4B		Simplicity primary screen (installed 1999) NSPS Subpart OOO	550 tons/hr	Wet suppression system		PM PM-10	03/05/99

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date				
Rotary Ki	Rotary Kiln System										
		Rotary Kiln System (constructed	135 MMBtu/hr (coal)	Multicyclone	C1	PM	00/02/72				
		in 1974 and modified in 1981) consisting of a preheater, kiln,	125 MMBtu/hr (gas)		C1	PM-10	08/02/73 modified				
U5	S1-S8	and cooler and capable of being fired by coal, natural gas, or	115 MMBtu/hr (oil)	ICA Senior, Size 8-		PM	09/10/81 amended				
		distillate oil	50 tons/hr limestone feed input	7500 Fabric Filter	D1	PM-10 SO ₂	07/31/00				
U5A	S9	Rotary Kiln dust handling and storage system		Mikropul 36S-8-30	D2	PM PM-10	08/02/73 modified 09/10/81 amended 07/31/00				
U6	S12	Rotary Kiln Coal System including day bin, coal mill, cyclone, feeder	6 tons/hr (output)	Mikropul	D5	PM PM-10	08/02/73 modified 09/10/81 amended 07/31/00				
U7	S11	Rotary Kiln crushing, sizing, and lime storage (1973)	four 1000 ton bins one 270 ton granular bin two 50 ton bins one 100 ton briquettes bin	Mikropul	D4	PM PM-10	08/02/73				
U8	S10	Rotary Kiln loadout (1973)	10 tons/hr (input)	Torit	D3	PM PM-10	08/02/73				

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date	
Hydration Process								
U9	S13	Hydrator Feed Bin (before 1972)	8 tons/hr (input)	Mikropul 36S-10	D6	PM PM-10		
U10	S14	Hydrator (modified 1987)	10 tons/hr (output)	Ducon Scrubber Size 48, Type UW4	D7	PM PM-10	05/05/87	
U11	S15	Hydrator Mill, Storage, and Loadout (before 1972)	3 tons/hr (output)	Mikropul 100 S10 TRH	D8	PM PM-10		
Calcimatio	Kiln Syste	em						
		Calcimatic Kiln System capable	60 MMBtu/hr (gas)	- · · · · ·	D9, D9B	PM PM-10 SO ₂		
U12	S16	of being fired by natural gas, distillate oil, or recycled oil	60 MMBtu/hr (oil)	Buell multiple cyclones Model 4 BBR #46,			05/01/02	
612 516	2.55	(modified 2001)	16.6 tons/hr limestone feed input (8.3 tons/hr output)	Series 43A and a Venturi scrubber		HCL		
U12t	-	Fixed roof, horizontal storage tank (installed 2001) NSPS Subpart Kb	25,000 gallons				05/01/02	

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
U13	S19	Calcimatic Cooler , Conveyor, and Roller Lime Mill (before 1972)	8 tons/hr (output)	Mikropul 256-K-10	D9A	PM PM-10	
	S21	Calcimatic Processing System including crushers, screens,	one 1000 ton crushed lime bin, one 600 tons sized lime bin one 1000 ton hydrate feed bin one 35 ton briquetter bin	Mikropul 36-10 (East)	D11		
U14	S22	elevators, conveyors, bins, and truck/rail loadout (before 1972)	one 340 ton tailings bin one 1A 100 ton bin one 1A 200 ton bin one 1000 ton fluxing bin one 100 ton recycle bin	Mikropul 36-10 (West)	D12	PM PM-10	

EMISSIONS INVENTORY

A copy of the 2000 annual emission update is included as Attachment A. Emissions are summarized in the following table.

Table 1. 2000 Actual Emissions

	Criteria Pollutant Emissions in Tons/Year								
Facility Wide	VOC	VOC CO SO ₂ PM-10 NO _x							
Total	6.64	190.27	186.34	124.38	334.19				

Hazardous air pollutant (HAP) emissions were not quantified except for HCL. For fee purposes, all HAPs at this facility (except for HCL) are accounted for under either VOCs or PM-10 emissions. Actual HCL emissions for 2000 were estimated by DEQ to be 20.3 tons.

EMISSION UNIT APPLICABLE REQUIREMENTS – Precalcination Process (U4, U4A, & U4B)

Limitations

The following limitations are state BACT and/or NSPS requirements from the minor NSR permit dated March 5, 1999. Please note that the conditions numbers are from the 1999 permit; a copy of the permit is enclosed as Attachment B.

<u>Condition 3</u>: Fugitive dust control requirements

<u>Condition 4</u>: Production limit for Cedar Rapids crusher.

<u>Condition 5</u>: Production limit for Simplicity screen

<u>Condition 6</u>: Emission limits for the Cedar Rapids crusher and the Simplicity screen.

Condition 7: Visible emission limit for the Cedar Rapids crusher.

<u>Condition 8</u>: Visible emission limit for the Simplicity screen.

<u>Condition 12</u>: Requires Simplicity screen to be operated in compliance with 40 CFR 60 Subpart OOO, unless more restrictive in the minor NSR permit.

Condition 20: Requires maintenance schedule and inventory of spare parts.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

<u>9 VAC 5-40-1840</u>, <u>Particulate Standard for Stone Quarrying and Processing Operations</u>. This requires all crushers to be fitted with liquid sprays or other appropriate systems to limit particulate emissions.

9 VAC 5-40-1840, Particulate Standard for Stone Quarrying and Processing Operations. This requires all feeders, elevators, conveyors, transfer points, discharge points and loading points to be equipped with collectors, sprays or other means to minimize particulate emissions.

9 VAC 5-40-1850, Standard for Visible Emissions for Stone Quarrying and Processing Operations. Visible emission limit (existing equipment under emission unit U4) shall not exceed

20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.

<u>9 VAC 5-50-80, Standard for Visible Emissions – New Sources.</u> Visible emission limit (U4A and U4B) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.

NSPS Subpart OOO Applicability

U4: All equipment included in U4 was manufactured prior to 1972. Subpart OOO is applicable only to equipment manufactured after August 31, 1983. Therefore all equipment included under U4 is not subject to the NSPS, Subpart OOO.

U4A: The Cedar Rapids secondary crusher (installed in 1999) was manufactured in 1979. Subpart OOO is applicable only to equipment manufactured after August 31, 1983. Therefore this secondary crusher (U4A) is not subject to the NSPS, Subpart OOO.

U4B: The primary screen (U4B), a Simplicity 7' X 16' triple deck (LPPS) manufactured in 1997, replaced an existing Allis Chalmers 7' X 16' triple deck primary screen. Although the screens appear to be the same size, the permittee stated that the new screen has a greater capacity than the old screen and should not be treated as a "like for like" replacement. Therefore, the replaced screen is subject to the NSPS, Subpart OOO.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition numbers 3 and 16 of the NSR permit have been modified to meet Part 70 requirements. Also, this permit includes additional requirements for monitoring and recordkeeping to satisfy Part 70 requirements.

The permit requires a wet suppression system or equivalent for dust control. A properly operating wet suppression system can comply with the opacity limits required by this permit.

The permit requires the wet suppression spray system to be equipped with pressure gauges to indicate system operating pressures. The permit also requires a daily inspection of the wet suppression spray system to include pumps, pipe system, spray nozzles, and water pressure gauges to ensure proper operation. The permittee is required to keep a record of the inspection results to include: date, time, and name of person performing each inspection; a list of items inspected, pressure gauge reading; and any maintenance or repair performed as a result of the inspection.

All equipment included in this section is required to meet a particulate emission standard based on the general process weight rate regulation. This standard is calculated based on the process weight of the

material being processed. The resulting particulate emission limits (as calculated at maximum capacity of the equipment) are not very stringent. Emission calculations have been included in Attachment H. The emission limits are as follows:

Table 2. Emission Limits for Precalcination Operations when Operating at Maximum Capacity.

Emission Unit Description	Emission Unit ID	Rate Capacity (tons/hr)	Predicted Emission Rate* (lbs/hr)	General Process Weight Limit (lbs/hr)
Primary Crushing	U4	500	0.018	69.0
Screening (Primary & Secondary)	U4 & U4B	550	4.95	70.0
Conveyor transfers points	U4	500	0.65	69.0
Secondary Crushing	U4A	550	0.79	70.0

^{*}Assumes use of wet suppression.

As long as the particulate emissions are controlled with the wet suppression system, the standards are easily obtained. Therefore, as long as the wet suppression system is properly maintained and operated, there is little likelihood of the particulate emission standards being violated.

Periodic monitoring for the visible emissions limits includes a visible emissions inspection for each piece of equipment included under the U4, U4A, and U4B emission units at least once every week of operation. The inspection will include a minimum of one minute of observation per piece of equipment. If visible emissions are observed, the permittee may take corrective action to return to no visible emissions or conduct an EPA Method 9 (40 CFR Part 60, Appendix A) on the source of visible emissions. The VEE will be conducted for a minimum of 6 minutes. If the 6-minute average exceeds the applicable opacity limit, the observation period will continue for a total of 60 minutes of observation or until a violation of the opacity standard for that emission unit has been documented, whichever period is shorter. The permittee is required to keep a record of the visible emissions inspections results to include: date, time and name of person performing each inspection; whether or not there were any visible emissions; and any maintenance or repairs performed as a result of the inspections.

The permittee is also required to keep records of any VEE's performed, scheduled and non-scheduled maintenance, and annual production of crushed stone from the Cedar Rapids crusher (U4A) and the Simplicity screen (U4B).

Monitoring and recordkeeping requirements for stockpiles and haul roads are included Section VIII – Facility Wide Conditions.

Testing

The permit requires EPA Method 9 testing when visible emissions are observed from the equipment included in emission unit U4, U4A, and U4B. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting has been included in the permit for the precalcination processes.

Streamlined Requirements

The following conditions in the minor NSR permit (3/5/99) have not been included for the reasons provided:

Condition 9 requiring VEE for crusher. VEE has been completed.

Condition 10 requiring VEE for screen. VEE has been completed.

Condition 11 allowing reduction in number of readings based on opacity observed. Tests have been completed.

Condition 13 requiring Symons 4 1/4' secondary cone crusher to be replaced with the Cedar Rapids rollercone crusher. Crusher has been replaced.

Condition 14 requiring Allis Chalmers 7' x16' primary screen to be replaced with a Simplicity 7' X 16' primary screen. Screen has been replaced.

Condition 15 requiring notifications. Notifications have been made.

Condition 21 requiring installation within 18 months of permit issuance. Installation was completed within the required time frame.

The 10% opacity limit for the screen and the 15% opacity limit for the crusher are more stringent than the Virginia Administrative Code Standard for visible emissions, 9 VAC 5-80-50. Therefore, only the more stringent opacity limit was included in the permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Rotary Kiln System (U5-U8)

Limitations

The following limitations are state BACT requirements from the minor NSR permit dated July 31, 2000. Please note that the conditions numbers are from the 2000 permit; a copy of the permit is enclosed as Attachment C.

<u>Condition 3:</u> Requires particulate emissions from the rotary kiln to be controlled by a multicyclone and a fabric filter.

<u>Condition 4:</u> Requires particulate emissions from the rotary kiln dust handling and storage system to be controlled by a fabric filter.

<u>Condition 5</u>: Requires particulate emissions from the rotary kiln coal system to be controlled by a fabric filter.

Condition 6: Fugitive dust control requirements.

<u>Condition 7:</u> Limits types of fuels to be burned in the rotary kiln.

Condition 9: Limits sulfur content for coal and distillate oil.

Condition 8: Limits input of sulfur in the fuel to the rotary kiln.

Condition 10: Particulate emission limit for rotary kiln.

Condition 11: Visible emission limit for fabric filters controlling rotary kiln system.

<u>Condition 19</u>: Requires the development of a maintenance schedule, inventory of spare parts, written operating procedures, and training for operators.

<u>Condition 16</u>: Requires notification of intent to shut down or bypass air pollution control equipment for scheduled maintenance which would last more than one hour.

The following limitations are state BACT requirements from the minor NSR permit dated August 2, 1973. A copy of the permit is enclosed as Attachment D.

Requires particulate emissions from the rotary kiln lime storage bins to be controlled by a fabric filter.

Requires particulate emissions from the rotary kiln lime crushing, sizing, and loadout operation to be controlled by a fabric filter.

The following Virginia Administrative Code that has specific emission requirements has been determined to be applicable:

<u>9 VAC 5-40-260</u>, Particulate Standard for General Process Operations. Particulate matter process weight limit applies to the rotary kiln system. The limit is determined by the equation $E=4.10\ P^{0.67}$, where E is the particulate limit in pounds per hour and P is the process weight limit in tons per hour.

<u>9 VAC 5-40-280</u>, Standard for Sulfur Dioxide. The standard for sulfur dioxide applies to the rotary kiln. The limit is determined by the equation S = 2.64K, where S is the allowable emission of sulfur dioxide expressed in pounds per hour and K is the actual heat input at total capacity expressed in Btu x 10^6 per hour.

<u>9 VAC 5-50-80</u>, Standard for Visible Emissions – New Sources. Visible emission limit shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.

Monitoring

The monitoring requirements in Condition numbers 3, 4, 5, 6, and 12 of the minor NSR permit have been modified to meet Part 70 requirements.

The permit requires a multicyclone and a fabric filter for control of particulate emissions from the rotary kiln. A properly operating fabric filter can comply with the opacity limit (10%) and the particulate limit (0.7 lb particulate/ton of limestone feed). At capacity, the particulate limit equates to 35 lb/hr.

A properly operating fabric filter can achieve an outlet concentration of 0.01 gr/cf (a number of NSPS standards which are met by fabric filters are required to achieve concentrations of 0.01 gr/dscf or less). The fabric filter controlling the rotary kiln has an exhaust rate of 100,000 cfm. An outlet concentration of 0.01 gr/cf at 100,000 cfm equals 8.6 lb/hr, which is well below the 35 lb/hr limit. Testing for particulate will be conducted once each permit term to ensure compliance with the particulate limit. However, because of the design of the fabric filter, Chemstone plans to develop an alternate method for particulate testing which will require prior approval by DEQ and EPA. A concurrent VEE is also required.

To ensure proper operation, the permit requires a daily inspection of the rotary kiln system. The

inspection includes the observation of the presence of visible emissions and the pressure drop across the fabric filter. If visible emissions are observed, the permittee has the option of either taking timely corrective action (initiated within four hours and completed within 24 hours of observation) such that the fabric filter resumes operation with no visible emissions or conducting a VEE.

The permit requires fabric filters for control of particulate emissions from the rotary kiln dust handling and storage system, the rotary kiln coal system, the rotary kiln lime storage bins, and the rotary kiln lime crushing, sizing, and loadout operations.

The rotary kiln auxiliary equipment is required to meet a particulate emission standard based on the general process weight rate regulation. This standard is calculated based on the process weight of the material being processed. The resulting particulate emission limits (as calculated at maximum capacity of the equipment) are not very stringent. Emission calculations have been included in Attachment H. The emission limits are as follows:

Table 3. Emission Limits for Rotary Kiln Auxiliary Operations when Operating at Maximum Capacity.

Emission Unit Description	Emission Unit ID	Rate Capacity (tons/hr)	Predicted Emission Rate* (lbs/hr)	General Process Weight Limit (lbs/hr)
Dust Handling & Storage system	U5A	4.4	0.1	11.1
Coal system	U6	6	.025	13.6
Lime crushing, sizing, and storage bins	U7	25	0.04	35.4
Lime loadout operations	U8	10	0.07	19.2

^{*}Assumes fabric filter control.

As long as the particulate emissions are vented through a properly operating control device, the standards are easily obtained. Therefore, as long as the fabric filters are properly maintained and operated, there is little likelihood of the particulate emission standards being violated.

To ensure proper operation, the permit requires a weekly inspection of the fabric filters D2-D5. Each inspection includes the observation of the presence of visible emissions and the pressure drop across the fabric filter. If visible emissions are observed, the permittee has the option of either taking timely corrective action (initiated within four hours and completed within 24 hours of observation) such that the fabric filter resumes operation with no visible emissions or conducting a VEE. As long as the fabric filter is meeting the opacity limit, there is reasonable assurance that the particulate standard will not be exceeded.

Internal inspections are also required on the multicyclone (C1) and on each fabric filter (D1-D5) to ensure the structural integrity of the control equipment.

Condition 12 of the 7/31/2000 permit requires that compliance with the hourly sulfur input limit (fuel throughput) be demonstrated using the following equation:

$$T = \frac{\sum_{i=1}^{n} S_i F_i}{H}$$

Where:

T = average hourly sulfur throughput (lb/hr)

S_i = sulfur content of each fuel (i) burned each month (weight percent)

F_i = number of pounds of each fuel (i) burned each month (lb)

H = number of hours of operation of the rotary kiln each month (hr)

The permittee is required to calculate the average hourly sulfur throughput each calendar month. Compliance with the annual sulfur input limit will be calculated monthly as the sum of each consecutive 12 month period. The fuel sulfur content is limited in the permit to 1.5% for coal and 0.5% for distillate oil. As shown in the table below, as long as these limits are not exceeded the fuel sulfur input limits should not be exceeded.

Table 4. Sulfur in Fuel Limits for Rotary Kiln when Operating at Maximum Capacity.

Fuel Type	Capacity of	Maximum	Sulfur input based	Maximum	Maximum	Sulfur Input
	Fuel Burning	Hourly	on Mass Balance	Sulfur	Calculated	Limit
	Equipment	Throughput		Content (S)	Input of Sulfur	
Coal	135 mmBtu/hr	5.0 ton/hr	30 lb sulfur /ton coal	1.5 %	150.0 lb/hr	150.0 lb/hr
Distillate Oil	115 mmBtu/hr	0.83 mgal/hr	35.25 lb/mgal oil	0.5 %	29.26 lb/hr	150.0 lb/hr
Natural Gas	125 mmBtu/hr	0.125mmcf/hr	21.43 lb/mmcf	15 gr/100cf	2.68 lb/hr	150.0 lb/hr

The rotary kiln's fuel burning capacities for each fuel are shown in the following table. Using the standard for sulfur dioxide formula in the permit (S=2.64K where S= the allowable emission of the sulfur dioxide in pound per hour and K= the actual heat input at total capacity expressed in mmBtu/hr), the allowable sulfur dioxide emissions for each fuel are outlined in the table. Based on EPA AP-42 emission factors and/or mass balance of sulfur in the fuel, the maximum sulfur dioxide emissions from the unit are as follows:

Table 5. Sulfur in Fuel Limits for Rotary Kiln when operating at Maximum Capacity.

Fuel Type	Capacity of	Maximum	Emission Factor for	Maximum	Maximum lb/hr	Sulfur
	Fuel Burning	Hourly	Sulfur Dioxide	Sulfur	Emissions of	Dioxide
	Equipment	Throughput		Content (S)	Sulfur Dioxide	Emission
						Standard
Coal	135 mmBtu/hr	5.0 ton/hr	59.93 lb SO ₂ /ton coal (mass balance)	1.5 %	299.65 lb/hr	356.4 lb/hr
Distillate Oil	115 mmBtu/hr	0.83 mgal/hr	143.6 S lb/mgal (AP- 42)	0.5 %	59.59 lb/hr	303.6 lb/hr
Natural Gas	125 mmBtu/hr	0.125mmcf/hr	0.6 lb/mmcf (AP-42)	15 gr/100cf	0.075 lb/hr	330.0 lb/hr

As shown in the table above, the maximum hourly emission of sulfur dioxide for each fuel is less than the allowable. Based on the allowable sulfur content in the fuels, the hourly sulfur dioxide limit can not be exceeded. Therefore, limitations on fuel type and monitoring of type of fuel purchased and sulfur content of fuels (coal and distillate oil) provides a reasonable assurance that the sulfur dioxide emission limitation is being met and thus, satisfies the periodic monitoring requirement.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by Condition 13 of the 7/31/2000 permit. These records include

- Hourly (pounds) and annual (tons) input of sulfur in the fuel (as sulfur) to the rotary kiln (U5).
- Hours of operation for the rotary kiln on a monthly basis.
- Fuel analysis records including types of fuel purchased, BTU heat value (coal only), sulfur content, ash content (coal only), quantity of each fuel burned.
- Daily and weekly fabric filter inspection results including the date, time, and name of person performing each inspection; the pressure drop across the fabric filters; whether or not there were visible emissions; and any maintenance or repairs performed as a result of these inspections.
- All VEE and stack test results.
- Multicyclone and fabric filter inspection results including the date, time, and name of person performing each inspection; a list of items inspected; and any maintenance or repairs performed as a result of these inspections.

- Scheduled and unscheduled maintenance.
- Operator training records including the names of trainees, the date of training and the nature of the training.

Testing

Testing for particulate will be conducted once each permit term to ensure compliance with the particulate limit. However, because of the design of the fabric filter, Chemstone plans to develop an alternate method for particulate testing which will require prior approval by DEQ and EPA. A concurrent VEE is also required.

A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The reporting requirements of Condition 14 of the minor NSR permit dated 7/31/00 have been included. The permit requires quarterly reports documenting the following:

- Hourly (pounds) and annual (tons) input of sulfur in the fuel (as sulfur) to the rotary kiln (U5).
- Hours of operation for the rotary kiln on a monthly basis.
- Fuel analysis records including types of fuel purchased, BTU heat value (coal only), sulfur content, ash content (coal only), quantity of each fuel burned

Streamlined Requirements

The particulate emission limit (0.7 lb/ton limestone feed) is more stringent than the particulate process weight rate limit in 9 VAC 5-40-280. Therefore, only the more stringent particulate limit was included in the permit.

Table6. Comparison of Particulate Emission Limit for Rotary Kiln vs. General Process Weight Limit when operating at Maximum Capacity.

Emission Unit Description Emission Unit ID (tons/hr limestone Emission Rate Weight Lin	Emission Unit Description	ption Emission Unit ID	(General Process Weight Limit (lbs/hr)
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Emission Unit Description	Emission Unit ID	Rate Capacity (tons/hr limestone feed input)	Predicted Emission Rate (lbs/hr)	General Process Weight Limit (lbs/hr)
Rotary Kiln	U5	50	35	44.6

EMISSION UNIT APPLICABLE REQUIREMENTS – Hydrator System (U9-U11)

The following limitations are state BACT requirements from the minor NSR permit dated May 5, 1987. Please note that the conditions numbers are from the 1987 permit; a copy of the permit is enclosed as Attachment E.

Part I

<u>Condition 6</u>: Requires fabric filters and scrubber to control particulate emissions from hydrator system.

<u>Condition 5</u>: Particulate limit for atmosphere hydrator.

Condition 4: Production limit for hydrated lime.

<u>Condition 7:</u> Visible emission limit for lime hydrator system.

Part II

Condition 5: Requires operator training for air pollution control equipment.

<u>Condition 6</u>: Requires written operating procedures and maintenance schedule for air pollution control equipment.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable.

9 VAC 5-40-260, Particulate Standard for General Process Operations. Particulate matter process weight limit applies to the hydrator system. The limit is determined by the equation E= 4.10 P^{0.67}, where E is the particulate limit in pounds per hour and P is the process weight limit in tons per hour.

<u>9 VAC 5-50-80, Standard for Visible Emissions – New Sources.</u> Visible emission limit (U4A and U4B) shall not exceed 20% opacity except during one six-minute period in any one hour in

which visible emissions shall not exceed 30% opacity.

Monitoring

The monitoring requirements in Condition numbers 6 and 7 of Part I of the NSR permit have been modified to meet Part 70 requirements.

The permit requires a scrubber for particulate control for the atmosphere hydrator (U10) and devices to measure either the scrubber liquid flow rate or the scrubber refresh flow rate and the pressure drop across the scrubber. A properly operating scrubber can comply with the opacity limit (5%) and the particulate limit (1.0 lb/hr).

A properly operating wet scrubber can achieve an outlet concentration of 0.022 gr/cf (This is the particulate standard for NSPS Subpart OOO that can be met with a wet scrubber.) The scrubber controlling the hydrator has an exhaust rate of 3600 cfm. An outlet concentration of 0.022 gr/cf at 3600 cfm equals 0.68 lb/hr, which is below the 1.0 lb/hr limit. As long as the scrubber is operating properly and the 5% opacity limit is being met, the particulate limit should not be exceeded. The annual limit of 4.4 tons/year is based on the 1.0 lb/hr limit at 8760 hours/year of operation. Therefore compliance with the hourly limit assures compliance with the annual limit.

To ensure proper operation, the permit requires daily and weekly inspections of the hydrator. The daily inspection includes the observation of the scrubber liquid flow rate or the scrubber refresh flow rate and the pressure drop across the scrubber. The weekly inspection includes an observation of the presence of visible emissions. If visible emissions are observed, the permittee has the option of either taking timely corrective action (initiated within four hours and completed within 24 hours of observation) such that the scrubber resumes operation with no visible emissions or conducting a VEE. As long as the scrubber is meeting the opacity limit, there is reasonable assurance that the particulate standard will not be exceeded.

The permit requires fabric filters for control of particulate emissions from the hydrator feed bin (U9) and the hydrator mill, storage and loadout (U11). The fabric filters are required to have devices installed to monitor pressure drop.

The hydrator auxiliary equipment is required to meet a particulate emission standard based on the general process weight rate regulation and an opacity standard. The particulate standard is calculated based on the process weight of the material being processed. The resulting particulate emission limits (as calculated at maximum capacity of the equipment) are not very stringent. Emission calculations have been included in Attachment H. The emission limits are as follows:

Table 7. Emission Limits for Hydrator Auxiliary Operations when operating at Maximum Capacity.

Emission Unit Description	Emission Unit ID	Rate Capacity (tons/hr)	Predicted Emission Rate* (lbs/hr)	General Process Weight Limit (lbs/hr)
Hydrator Feed Bin	U9	8	0.18	16.5
Hydrator Mill, Storage, and Loadout	U11	3	0.10	8.6

^{*}Assumes fabric filter control.

As long as the particulate emissions are vented through a properly operating control device, the standards are easily obtained. Therefore, as long as the fabric filters are properly maintained and operated, there is little likelihood of the particulate emission standards being violated.

To ensure proper operation, the permit requires a weekly inspection of the hydrator auxiliary equipment. Each inspection includes the observation of the presence of visible emissions and the pressure drop across each fabric filter. If visible emissions are observed, the permittee has the option of either taking timely corrective action (initiated within four hours and completed within 24 hours of observation) such that the fabric filter resumes operation with no visible emissions or conducting a VEE.

Annual internal inspections are also required on the scrubber (D7) and on each fabric filter (D6 and D8) to ensure the structural integrity of the control equipment.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by Part II, Condition 4 of 5/5/87 permit. These records include:

- Annual throughput of hydrated lime (in tons), calculated monthly as the sum of each consecutive 12 month period.
- Daily and weekly scrubber inspection results including the date, time, and name of person performing each inspection; the scrubber liquid flow rate or the scrubber refresh flow rate; the pressure drop across the scrubber; whether or not there were visible emissions; and any maintenance or repairs performed as a result of these inspections.
- Weekly fabric filter inspection results including the date, time, and name of person performing each inspection; the pressure drop across the fabric filters, if applicable; whether or not there were visible emissions; and any maintenance or repairs performed as a result of these inspections.
- All VEE and stack test results.

- Annual scrubber and fabric filter internal inspection results including the date, time, and name of person performing each inspection; a list of items inspected; and any maintenance or repairs performed as a result of these inspections.
- Scheduled and unscheduled maintenance, and operator training.
- The DEQ approved, pollutant specific emission factors and the equations used to demonstrate compliance with Conditions V.A.3.

Testing

The permit requires EPA Method 5 stack testing for particulate matter once a permit term. A table of test methods has been included in the permit if additional testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting has been included in the permit for the hydration processes.

Streamlined Requirements

The following conditions in the minor NSR permit dated 5/5/87 have not been included for the reasons provided:

Part I, Condition 8 requiring an initial VEE for hydrator. VEE has been completed.

Part II, Condition 1 requiring notification of estimated start-up date. Notification has been made.

Part II, Condition 2 requiring notifications. Notifications have been made.

Part II, Condition 12 invalidation condition if unit not constructed. Unit has been constructed and is operating.

In addition, the 5% opacity limit for the hydration system is more stringent than the Virginia Administrative Code Standard for Visible Emissions, 9 VAC 5-50-80. Therefore, only the more stringent opacity limit was included in the permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Calcimatic Kiln System (U12-U14)

Limitations

The following limitations are state BACT requirements from the minor NSR permit dated May 1, 2002. Please note that the conditions numbers are from the 2002 permit; a copy of the permit is enclosed as Attachment F.

<u>Condition 3:</u> Requires multiple cyclones and a venturi scrubber to control particulate emissions from the calcimatic kiln (U12).

Condition 4: Fugitive emission control requirements.

Condition 7: Production limit for calcimatic kiln.

<u>Condition 8</u>: Approved fuels for calcimatic kiln.

<u>Condition 9</u>: Fuel throughput limit (natural gas) for calcimatic kiln.

Condition 10: Fuel throughput limit (distillate oil) for calcimatic kiln.

Condition 11: Fuel throughput limit (recycled fuel oil) for calcimatic kiln.

<u>Condition 12</u>: Fuel specifications.

Condition 13: Fuel certification for distillate oil.

Condition 14: Fuel certification for recycled fuel oil.

Condition 15: Short term emission limits for calcimatic kiln.

Condition 16: Annual emission limits for calcimatic kiln.

Condition 17: Visible emission limit for calcimatic kiln.

Condition 18: Fuel storage tank restrictions.

<u>Condition 26</u>: Requires the development of a maintenance schedule, inventory of spare parts, written operating procedures, and training for operators.

The following Virginia Administrative Codes that have specific emission requirements have been

determined to be applicable:

- <u>9 VAC 5-40-260</u>, Particulate Standard for General Process Operations. Particulate matter process weight limit applies to the calcimatic kiln system. The limit is determined by the equation $E=4.10\ P^{0.67}$, where E is the particulate limit in pounds per hour and P is the process weight limit in tons per hour.
- <u>9 VAC 5-40-280</u>, Standard for Sulfur Dioxide. The standard for sulfur dioxide applies to the calcimatic kiln. The limit is determined by the equation S = 2.64K, where S is the allowable emission of sulfur dioxide expressed in pounds per hour and K is the actual heat input at total capacity expressed in Btu x 10^6 per hour.
- <u>9 VAC 5-40-80, Standard for Visible Emissions</u>. Visible emission limit shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.

The following additional requirements have been included to demonstrate compliance with the particulate matter limits:

- 9 VAC 5-80-110 Particulate emissions from the calcimatic cooler, conveyor, and roller lime mill shall be controlled by a fabric filter.
- 9 VAC 5-80-110 Particulate emissions from the calcimatic processing system including crushers, screens, elevators, conveyors, bins, and truck/rail loadout shall be controlled by two fabric filters.

Monitoring

The permit requires multiple cyclones (D9) and a venturi scrubber (D9B) for control of particulate emissions from the calcimatic kiln. The scrubber is required to be equipped with devices to continuously measure the scrubber liquid flow rate, exit gas temperature, and the differential pressure drop across the scrubber. Particulate emission testing and a concurrent visible emission evaluation was conducted on October 18, 2001 as required by the minor NSR permit issued on June 5, 2001. The result of the initial stack test was 0.04 gr/dscf. At that time, the particulate emission limit from this minor NSR permit was 0.022 gr/dscf. The unit was retested on December 12, 2001. The result from the second test was 0.034 gr/dscf.

After the second failed stack test, Chemstone analyzed the filter samples using electron microscopy and energy dispersive X-ray. The analyses showed that the particulate was composed almost entirely of

potassium chloride particles primarily in the 0.1 to 0.3 micrometer diameter size range. This size range is particularly hard to capture for wet scrubbers. Samples of the limestone feed, recycled oil, scrubber return water, cyclone solids, scrubber discharge water, stack emissions, and lime product were analyzed to find the source of the potassium chloride. Results of the analyses showed that the primary source of the potassium chloride was the limestone feed. As a result, the minor NSR permit was modified to increase the particulate limit to 0.040 gr/dscf. This modified permit was issued on May 1, 2002. The second stack test result of 0.034 gr/dscf demonstrates that Chemstone can meet the new limit of 0.040 gr/dscf.

In addition to the initial tests, a particulate stack test is required once each permit term to ensure continued compliance with the particulate limit. A concurrent VEE is also required.

Operating at capacity, the General Process Rule particulate limit equates to 26.93 lbs/hr. As long as Chemstone can meet the 0.040 gr/dscf emission limit (12.86 lb/hr), the General Process Rule particulate limit can be met.

To ensure proper operation of the cyclones and the venturi scrubber, the permit requires a daily inspection of the control equipment. The inspection includes an observation of the presence of visible emissions, the pressure drop across the venturi scrubber, the scrubber liquid flow rate, and the exit gas temperature. If visible emissions are observed, the permittee has the option of either taking timely corrective action (initiated within four hours of inspection and completed within 24 hours of observation) such that the calcimatic kiln system resumes operation with no visible emission or conducting a VEE.

The permit requires fabric filters for control of particulate emissions from the calcimatic cooler, conveyor, roller lime mill, storage and sizing. The calcimatic auxiliary equipment is required to meet a particulate standard based on the general process weight rate regulation. This standard is calculated based on the process weight of the material being processed. The resulting particulate emission limits (as calculated at maximum capacity of the equipment) are not very stringent. Emission calculations have been included in Attachment H. The emission limits and predicted emissions are included in the following table.

Table 8. Emission Limits for Calcimatic Kiln Auxiliary Operations when Operating at Maximum Capacity.

Emission Unit Description	Emission Unit ID	Rate Capacity (tons/hr)	Predicted Emission Rate* (lbs/hr)	General Process Weight Limit (lbs/hr)
Calcimatic Cooler, Conveyor, and Roller Lime Mill	U13	8.3	0.80	16.9

Emission Unit Description	Emission Unit ID	Rate Capacity (tons/hr)	Predicted Emission Rate* (lbs/hr)	General Process Weight Limit (lbs/hr)
Calcimatic Processing System including crushers, screens, elevators, conveyors, bins, and truck/rail loadout	U14	8.3	0.30	16.9

^{*} Assumes fabric filter control.

As long as the particulate emissions are vented through a properly operating control device, the standards are easily obtained. Therefore, as long as the fabric filters are properly maintained and operated, there is little likelihood of the particulate emission standards being violated.

Emission calculations have been included in Attachment H.

To ensure proper operation, the permit requires a weekly inspection of the fabric filters D9A, D11, and D12. Each inspection includes the observation of the presence of visible emissions and the pressure drop across the fabric filters. If visible emissions are observed, the permittee has the option of either taking timely corrective action (initiated within four hours and completed within 24 hours of observation) such that the fabric filter resumes operation with no visible emissions or conducting a VEE. As long as the fabric filter is meeting the opacity limit, there is reasonable assurance that the particulate standard will not be exceeded.

Annual internal inspections are also required on the cyclones (D9), the venturi scrubber (D9B), and the fabric filters (D9A, D11 & D12).

The minor NSR permit limits the sulfur dioxide emissions to 7.52 lb/hr. Using the standard for sulfur dioxide formula in 9 VAC 5-40-280 (S=2.64K where S = the allowable emission of the sulfur dioxide in pound per hour and K = the actual heat input at total capacity expressed in mmBtu/hr (Calcimatic kiln is 60 mmBtu/hr for all fuels)), the allowable sulfur dioxide emissions would be 158.4 lbs/hr. The minor NSR limit of 7.52 lb/hr is clearly more stringent and the higher limit has been streamlined from the Title V permit.

The venturi scrubber will control sulfur dioxide emissions. Fuel sulfur content for the distillate oil and recycled fuel oil is limited to 0.5% by weight. As long as the venturi scrubber is operating properly, the sulfur dioxide limit should be met. An initial test for sulfur dioxide emissions is required as part of the minor NSR permit dated June 5, 2001 to ensure this limit can be met. This test was conducted on October 18, 2001. The average SO₂ emissions for the three tests was 0.04 lbs/hr.

Nitrogen dioxide and carbon monoxide emissions were also tested on October 18, 2001 as part of the minor NSR permit dated June 5, 2001. The permitted emission limit for nitrogen oxides is 9.82 lbs/hr. The average nitrogen dioxide emissions for the three tests was 6.89 lbs/hr. The permitted emission limit for carbon monoxide is 14.54 lbs/hr. The average carbon monoxide emissions for the three tests was 8.49 lbs/hr. The permit requires proper operation and maintenance of the equipment. As long as the equipment is properly operated and maintained, these limits should be met. Testing is required once a permit term for carbon monoxide and nitrogen dioxide.

Annual limits for sulfur dioxide, nitrogen dioxide, and carbon monoxide are required to be calculated monthly. Emission factors derived during stack testing will be used for calculating emissions.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include:

- Annual production of lime (in tons) from the calcimatic kiln (U12), calculated monthly as the sum of each consecutive 12 month period.
- Annual throughput of natural gas (in mmcf), distillate oil (in gallons), and recycled fuel oil (in gallons) for the calcimatic kiln (U12), calculated monthly as the sum of each consecutive 12 month period.
- All fuel supplier certifications.
- Operation and control device monitoring records for the calcimatic kiln (U12).
- Scheduled and unscheduled maintenance, and operator training.
- Dimensions of the storage tank (U12t) and an analysis showing the capacity of the storage tank. This record shall be kept for the life of the storage tank.
- Daily calcimatic kiln system inspection results including the date, time, and name of person performing each inspection; the pressure drop across the venturi scrubber, the scrubber liquid flow rate, and the exit gas temperature; whether or not there were visible emissions; and any maintenance or repairs performed as a result of these inspections.
- Weekly inspection results for emission units U13 and U14 including the date, time, and name of person performing each inspection; the pressure drop across the fabric filter;

whether or not there were visible emissions; and any maintenance or repairs performed as a result of these inspections.

- All VEE and stack test results
- Annual cyclone, venturi scrubber, and fabric filter inspection results including the date, time, and name of person performing each inspection; a list of items inspected; and any maintenance or repairs performed as a result of these inspections.
- Fuel purchase records.
- The DEQ approved, pollutant specific emission factors and the equations used to demonstrate compliance with Conditions VI.A.13 and VI.A.14.

Testing

Initial testing on the calcimatic kiln was conducted as part of the minor NSR permit issued on June 5, 2001. Testing was conducted for particulate matter, sulfur dioxide, nitrogen dioxides, carbon monoxide, and visible emissions. In addition, particulate, carbon monoxide, and nitrogen dioxide testing is required at least once during each permit term. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting had been included in the permit for the Calcimatic Kiln System.

Notifications

The following notification requirements were part of the minor NSR permit dated 6/5/01 and have been included in the Title V permit.

<u>Condition 25</u>: Requires notification for control equipment maintenance.

Condition 26: Requires notification for facility or control equipment malfunction.

Streamlined Requirements

For the calcimatic kiln, the limits in the minor NSR permit for particulate matter and sulfur dioxide are

more stringent than the Virginia Administrative Code Standards for particulate matter, 9 VAC 5-40-260 and for sulfur dioxide, 9 VAC 5-40-280. Therefore, only the more stringent limit was included in the permit.

EMISSION UNIT APPLICABLE REQUIREMENTS – Facility Wide Conditions – Fugitive Dust sources (U1-U3)

Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

<u>9 VAC 5-50-80</u>, Standard for Visible Emissions – New Sources. Visible emission limit shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.

9 VAC 5-50-90, Standard for Fugitive Dust/Emissions

The following additional requirements have been included to demonstrate compliance with the fugitive dust/emissions requirements:

9 VAC 5-80-110 – Requires the permittee to develop a Dust Control Plan with good written operating procedures.

Monitoring and Recordkeeping

In lieu of conducting periodic evaluations using EPA Method 9 to demonstrate compliance with the facility's visible emission limit for fugitive dust sources (U1-U3), the permittee shall perform a daily visual survey of the trafficable roads at the facility for sources of excessive emissions. The reason for not requiring EPA Method 9 is that there are no stacks for these emission units. The presence of excessive emissions shall require further investigation as to the cause of the emissions and timely corrective action shall be required within one hour of the visual survey. All observations and corrective actions taken shall be logged and recorded. These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

There is reasonable assurance that violations of the visible emission standards should not occur if the permittee complies with the permit condition to mitigate fugitive dust, implements the operating procedures included in the dust control plan, performs a daily visible emission survey, and conducts timely corrective actions as needed.

Testing

The permit does not require source emission tests. A table of test methods has been included in the permit if further testing for compliance purposes is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting has been included in the permit for the facility wide fugitive dust sources processes.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions, including those caused by upsets, within one business day.

STATE ONLY APPLICABLE REQUIREMENTS

None identified by the applicant.

FUTURE APPLICABLE REQUIREMENTS

Maximum achievable control technology standards (MACT) for lime manufacturing, under 40 CFR Parts 61 and 63 and 9 VAC 5 Chapter 60, are scheduled for promulgation in 2002. The facility may be subject to those requirements when promulgated.

INAPPLICABLE REQUIREMENTS

The permittee has identified the following inapplicable requirements:

New Source Performance Standard (NSPS) requirements for Rotary Lime Kilns in 40 CFR Part 60, Subpart HH are not currently applicable. The rotary kiln (U5) was built before 5/3/77. Changes to kiln system in 1981 were not considered to be a modification as determined by EPA in a letter dated 6/30/97. A copy of this letter is included as Attachment G.

New Source Performance Standard (NSPS) requirements for Coal Preparation Plants (U6) in 40 CFR Part 60, Subpart Y are not currently applicable. The plant processes less than 200 tons per day (40 CFR 60.250(a)).

New Source Performance Standard (NSPS) requirements for Nonmetallic Mineral Processing Plants, Subpart OOO is not applicable to the Cedar Rapids Crusher (U4A). This crusher was manufactured in 1979. This subpart only applies to units manufactured after 8/31/83.

Particulate Standard for Coal Preparation Plants (U6) in 9 VAC 5-40-1980 is not applicable. This standard only applies to dryers and pneumatic coal cleaning equipment.

Additionally, the Department has determined that the following requirements are not applicable:

The New Source Performance Standards (NSPS) for petroleum or volatile organic liquid storage vessels in 40 CRF part 60 subparts K, Ka, and Kb are not applicable to Tanks U18, U19, U20 & U23. Tanks U18 and U19 are not subject to Subpart K because these tanks are used to store No. 2 fuel oil. Subpart Ka and Kb do not apply to these tanks because they were constructed prior to 1978. Tanks U20 and U23 are not subject to Subpart K, Ka, or Kb because of their small sizes, 3000 gallons and 1500 gallons respectively.

COMPLIANCE PLAN

The permittee is currently in compliance with all applicable requirements. No compliance plan is included in the application or in the permit.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720 C)
U18	No. 2 fuel oil storage tank – above ground	9 VAC 5-80-720B.2	VOC	100,000 gallons
U19	Two diesel fuel tanks – above ground	9 VAC 5-80-720B.2	VOC	100,000gallons; 200,000 gallons
U20	Gasoline storage tank – above ground	9 VAC 5-80-720B.2	VOC	3,000 gallons
U21	Zepp Part Washer	9 VAC 5-80-720B.2	VOC	300 gallons per year

				throughput
U22	Storage tanks for antifreeze and lubricants	9 VAC 5-80-720C.3	VOC	<550 gallons
U23	Waste oil tank	9 VAC 5-80-720C.2	VOC	1500 gallons
U24	Three diesel generators (quarry lights)	9 VAC 5-80-720C.4.b	PM-10,NO _x , SO ₂ , VOC, CO	35 HP each
U26	FHA furnaces for building space heat (natural gas-fired)	9 VAC 5-80-720C.2.a	PM-10,NO _x , SO ₂ , VOC, CO	< 10 MMBtu/hr heat input
U27	FHA furnaces for shop space heat (oil- fired)	9 VAC 5-80-720C.2.a	PM-10,NO _x , SO ₂ , VOC, CO	< 1 MMBtu/hr heat input

¹The citation criteria for insignificant activities are as follows:

- 9 VAC 5-80-720 A Listed Insignificant Activity, Not Included in Permit Application
- 9 VAC 5-80-720 B Insignificant due to emission levels
- 9 VAC 5-80-720 C Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was placed in the Northern Virginia Daily, Strasburg, Virgnina, on May 13, 2002. EPA was sent a copy of the draft permit and notified of the public notice on May 10, 2002 and concurrently reviewed the draft permit as a proposed permit. Affected states, West Virginia and Maryland, were sent a copy of the public notice in a letter dated May 10, 2002. All persons on the Title V mailing list were also sent a copy of the public notice in letters dated May 10, 2002.

Public comments were accepted from May 13, 2002, to June 12, 2002. Comments were received from the permittee in a letter dated June 6, 2002 thus voiding the concurrent processing procedure. The comments were addressed in a response to comments document and the revised permit, statement of basis, and response to comments document were sent to EPA on June 13, 2002. The EPA 45 day review period ends on July 29, 2002.